



USDA Forest Service - Southern Research Station - 320 Green Street Athens GA 30602 - <http://www.srs.fs.usda.gov/disturbance>



Table of Contents

Technology Transfer	1
Outreach Activities	1
Meetings/Report	3
Partnerships	3
Visitors	3
Personnel News	3
News from Around the Region	4
Publications	6
Upcoming Events	8
GPRA Accomplishments	9



Outreach Activities:

- A Georgia Prescribed Fire Short Course was held at the Brender Demonstration Forest.
- Five organized groups of 79 people visited the Brender Demonstration Forest in October, including local landowners, Biology labs from Mercer University, and Forest Service Retirees. Fall deer hunts began the first weekend of October, starting with a hunt for wheelchair-bound individuals. A total of 20 people came by the office for information and there were 45 people who hiked the Hitchiti Interpretive Trail. Some of the visitors came from as far away as The Netherlands.
- Dave Cleland taught at a national Nature Conservancy (TNC) fire learning network workshop in Little Falls, MN.



At the SMIC meeting in Andalusia, AL a beautiful Gopher Tortoise (*Gopherus polyphemus*) made a rare appearance. (Photo by Steve Zuck)

Technology Transfer:

• Richard Reitz moderated a session on Firewise Community Advisor at the Society American Foresters Annual Meeting held in Ft. Worth, Texas.

• John Stanturf organized and moderated two sessions, "Knowledge Diffusion in Forestry Part 1 and Part 2" at the SAF meeting. He also presented two papers in the sessions, "Knowledge diffusion or technology transfer" co-authored with Palle Madsen; and "Knowledge acquisition by foresters" co-authored by Phil Araman, Deb Kennard, Cynthia Fowler, Rick Reitz, Jim Finley, Lori Gardner, and Rita Neznok.

• Ken Outcalt presented an invited paper, "Fire and Fire Surrogate Treatments for Fuels Management of Southern Coastal Plain Flatwoods," at the SAF meeting. This and other presentations were filmed and will be available in streaming video from the SAF website at a later date.

• Unit staff members have been tapped to represent the Southern Research Station on the Fire Portfolio Cross Station Teams. These teams will pilot the portfolio approach to national program development and budgeting. Each team is led jointly by a Washington Office staffer and a scientist from the responsible Research Station, and each station has a representative on all teams. For Portfolio 1—Core Fire Science, the Rocky Mountain Research Station is the lead and the SRS representative is Scott Goodrick,

SRS-4104. Portfolio 2—Environmental Science is the responsibility of the Pacific Northwest Station and the SRS rep is Tom Waldrop, SRS-4104. The Northern Research Station is responsible for Portfolio 3—Social Fire Science and the SRS rep is Evan Mercer, SRS-4851. Portfolio 4—Integrated Fire Management will be led by the Southern Research Station and John Stanturf, SRS-4104, is the co-lead. Portfolio 5—Science Application will be led by the Washington Office and Annie Hermansen-Baez, SRS-4951 is the SRS rep.

• Yong Liu attended the SE Ecosystem-Fire-Air Quality-Climate Project Meeting at Georgia Institute of Technology, Atlanta, and gave a presentation entitled "Overview of the effects of a fires on regional climate."

• Ken Outcalt hosted the 7th Annual Science Management Integration Committee of the National Fire and Fire Surrogate study at the Solon Dixon Forestry and Education Center, Andalusia, Alabama. Members from the 13 FFS sites around the country gathered to discuss the progress of data analyses and possible venues for presentation of individual and national results. One day was spent touring the Gulf Coastal Plain Site with multiple presentations given by Outcalt and his cooperators, Rhett Johnson, Dale Pancake, Dale Brockway, Jim Hanula, Graeme Lockaby, and Craig Guyer. Tom Waldrop also attended the SMIC meeting.

↓ Outreach Continued:

• Ken Outcalt hosted a Fuels Treatment Workshop at the Gulf Coastal Plains Fire and Fire Surrogate Study Site at the Solon Dixon Forestry and Education Center of Auburn University near Andalusia, Alabama. Outcalt and his cooperators, Rhett Johnson, Dale Pancake, Dale Brockway, Josh Campbell, Graeme Lockaby, and Craig Guyer, gave field presentations and led discussions on costs and benefits of various treatments for ecosystem restoration and fuel reduction in longleaf pine stands of the region. The 25 attendees included natural resource managers from state agencies of Louisiana, Alabama, Georgia and Florida as well as managers from Eglin Air Force Base, The Nature Conservancy and private forest landowners.



Natural resource managers from state agencies of Louisiana, Alabama, Georgia and Florida as well as managers from Eglin Air Force Base, The Nature Conservancy, and private forest landowners at the Fuels Workshop.



Longleaf pine forest at the Solon Dixon Forestry and Education Center

↓ Technology Transfer:

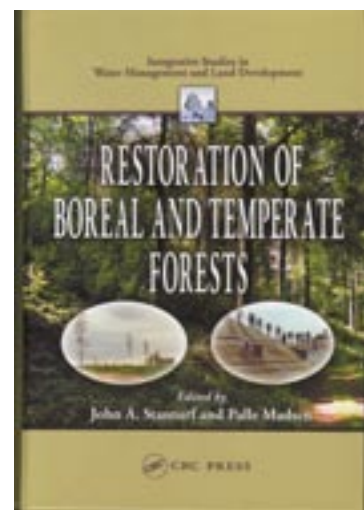
• Scott Goodrick and Yongqiang Liu attended a joint meeting of the American Meteorological Society's Symposium on Fire and Forest Meteorology and the Interior West Fire Council in Canmore, Alberta, Canada. Scott served as session chair for a session on atmosphere-fire interactions and coupled modeling. In addition, Scott served as judge in a young scientist competition sponsored by the International Association of Wildland Fire. Scott and Yong made oral presentations and co-authored several poster presentations. Papers included:

- CMAQ-Daysmoke as a smoke and air quality management technique: a case study of a prescribed burning in Georgia. Yongqiang Liu, G. Achtemeier and S. Goodrick
- Atmospheric teleconnections and wildfires in the southeastern United States. Scott L. Goodrick and D. E. Hanley (Florida Division of Forestry)
- Building historical gridded weather data sets for fire program analysis. Scott L. Goodrick
- High-resolution numerical model simulations of fire plume dynamics. Philip Cunningham (Florida State University), S. L. Goodrick
- The interaction between a wildfire and a sea-breeze front. Deborah E. Hanley (Florida Division of Forestry), P. Cunningham (Florida State University), S. L. Goodrick
- A mechanism for the formation of transverse horizontal vortices on wildland fires. Scott L. Goodrick, P. Cunningham (Florida State University)
- On plume rise—matching Daysmoke with Briggs equations for industrial stacks. Gary L. Achtemeier, (Goodrick presented in Achtemeier's place)
- Numerical simulations of fires similar to those of the international crown fire modeling experiment. Rodman R. Linn and J. Canfield (Los Alamos National Lab), J. Winterkamp, P. Cunningham (Florida State University), J. Colman, C. Edminster (Rocky Mountain Research Station, USFS), and S. L. Goodrick
- Modeling effects of atmospheric stability on wildfire behavior. Jesse M. Canfield and R. Linn, (Los Alamos National Lab), P. Cunningham (Florida State University), S. L. Goodrick
- Spatial relationships between SST and U.S. wildfires, Yong Liu

• The Taylor & Francis Group, LLC has chosen the book edited by John Stanturf and Palle Madsen, *Restoration of Boreal and Temperate*

Forests, to be included in their online product ENVIRONetBASE, the Environmental Sciences Electronic Library. This subscription product is modeled after ENGnetBASE, to provide corporations and institutions with a comprehensive online database.

• Two chapters from the recent book “Restoration of Boreal and Temperate Forests” edited by John Stanturf and Palle Madsen were placed on the Forest Restoration Information Service (FRIS) portion of the UNEP World Conservation Monitoring Centre website as case studies. FRIS is an open-access information service supporting forest restoration projects worldwide by documenting current efforts in forest restoration, facilitating exchange of knowledge and experience among forest restoration projects, and helping to identify lessons learned and best practice. The chapters on longleaf pine restoration, authored by Dale Brockway, Ken Outcalt and others, and bottomland hardwood restoration, authored by Emile Gardiner and Mike Oliver, can be accessed at <http://www.unep-wcmc.org/index.html?http://www.unep-wcmc.org/forest/restoration/index.htm~main>.



Prescribe burn developing a strong convective plume.

Meetings/Reports:

- Ken Forbus attended the inaugural meeting of the Research and Development Applications Development Team in San Antonio, TX. Carol Whitlock, SRS rep, could not attend. The primary issues of the ADT seem to be data architecture and web migration.

- Alex Clark attended the Southern Research Station Management Team meeting in Memphis, sitting in for John Stanturf who attended a wedding in Ithaca, New York.

- John Stanturf participated in the Workshop on Climate Variability, held at the Institute of Forest Genetics in Placerville, California. The group of Forest Service researchers from all stations was convened by Al Riebau and Tom Crow of the Washington Office, to develop a multi-station initiative on climate variability. Steve McNulty, Southern Global Change Program, and Stanturf agreed to investigate organizing a conference on carbon and climate variability.

- The SRS Civil Rights Committee held their annual meeting in Athens and presentations were given on units' research by all the project leaders, including Stanturf. Alex Clark provided CRC members with a tour of the South Building/4104 facilities.

- Ken and Pat Outcalt produced a report on the Gulf Coastal Plains Site for the National Fire and Fire Surrogate Study 7th Annual SMIC Meeting Field Trip conducted October 19 at the Solon Dixon Forestry and Education Center of Auburn University near Andalusia, Alabama.



November is Native American History Month.

Partnerships:

- Dan Pisut of the South Florida Water Management District contacted Gary Achtemeier about adapting the Daysmoke smoke model for a case study of prescribed fires in the Florida Everglades to be conducted during January-February 2006. The study uses five 20-acre plots along a nutrient enrichment gradient; two will be burned, 3 will be used for control and reference. Variables studied include change in surface water, pore water, and soil nutrient chemistry between the burned and unburned sites, and sites along the nutrient gradient. Pisut would use Daysmoke to estimate the bulk transport of burnt material (ash, smoke, etc) downwind from the burn sites.



Smoke from a prescribed burn in the Everglades, Collier County, Florida. (Photo EPA)

Visitors

- Heidi Bigler-Cole, a social scientist from the Pacific Northwest Research Station in La Grande, Oregon attended the Fuels Treatment Workshop hosted by Ken Outcalt at the Solon Dixon Forestry and Education Center. She interviewed some attendees and facilitated a wrap-up discussion to gather feedback on the workshop and general preferences on science delivery to managers.



Heidi Bigler-Cole, (second from right in denim jacket) visiting with managers on the Fuels Workshop field trip.

Personnel News:

- Congratulations to Yongqiang Liu and Scott Goodrick on their promotion to GS-13 Research Meteorologist. Both Yong and Scott joined the unit in 2002 and this was their first experience with the panel process. May all future panelists be as insightful and wise as these panelists!



Scott Goodrick



Yongqiang Liu

- Welcome to new student employee Jennifer Kuhr, who will work in the Soil Quality Lab with Corey Babb.



Jennifer Kuhr

- At the request of the Station Civil Rights Committee, Pat Outcalt was named Local CRC Representative for the South Building in Athens. Pat will be the conduit for civil rights information between unit members and the Civil Rights Committee. Ken Cordell, Project Leader of SRS-4901 in Athens was elected Chair of the CRC for FY 2006.

- Janet Revell and Lynne Breland attended Microsoft Access training in Athens.

- John Stanturf has been re-appointed to another 5-year term on the Commission on Ecosystem Management of the IUCN-The World Conservation Union; <http://www.iucn.org/themes/cem>.



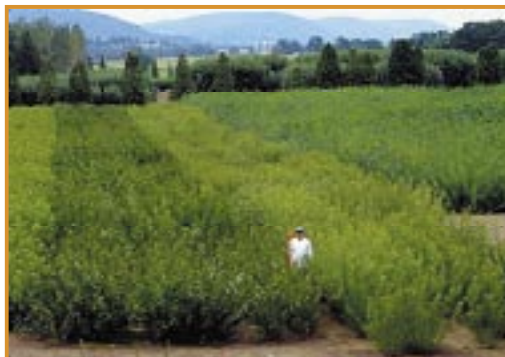


• Dan Neary, one-time Project Leader in the Southeastern Forest Experiment Station IMPAC project in Gainesville, Florida, was named a Fellow of the Soil Science Society of America at their annual meeting in Salt Lake City. Dan is currently a PL in the Rocky Mountain Research Station, located in Flagstaff, Arizona.

• Temple-Inland Inc., a packaging and forest products company with extensive timberland holdings in eastern Texas, estimated that recent hurricanes cost them about \$27 million, including costs of stalled production, expenses and downtime. Temple-Inland said about \$15 million of the \$27 million in losses was due to damaged timber, employee and community assistance and other costs. The remaining \$12 million in losses were mostly from mill downtime and start-up costs. The company estimated that Hurricane Katrina's costs totaled about \$10 million, and Rita's amounted to about \$17 million. Actual timber losses of \$7 million are due to damage to the company's Texas and Louisiana forest by Hurricane Rita, and represent an initial assessment of the book value of timber damaged less estimated recoveries. (Source: BusinessWire)

• The USDA Forest Service and the Colorado Governor's Office of Energy Management and Conservation (OEMC) are partnering on a new and innovative way to both reduce hazardous fuels and expand the use of biomass to produce energy. The Forest Service purchased 730 MWh of Renewable Energy Certificates (RECs), which is about the amount of energy needed to power seven Forest Service district offices for one year. Through the purchase of these RECs, the Forest Service will help support efforts to develop opportunities for co-firing coal and small-diameter trees for power generation. The Forest Service transaction is the first example of forest-derived biomass RECs being sold on the voluntary market. The RECs were developed through a program funded by the U.S. Department of Energy via OEMC. The OEMC's implementing partners -- Aquila, Inc., McNeil Technologies, Inc. and the Colorado Energy Science Center (CESC) -- developed the first U.S. pilot program for selling the RECs generated by co-firing biomass and coal.

• Green Energy Resources has received an order for 250,000 tons of wood biomass in the State of New York beginning in 2007. The contract is part of a larger New England contract to supply nearly 500,000 tons to four biomass power plants in four separate states. The agreement is a 10-year supply deal, totaling 5 million tons. Total value of the contract has not been disclosed. Eight New England states and Delaware recently agreed to move forward with greenhouse gas emissions standards. Demand for biomass energy in New England is particularly strong, where there are few open spaces for wind turbines and weather is not optimal for solar energy. Biomass is the only renewable energy supply that can be stored, saved, and ready reserves maintained. Up to 20 new biomass plants are being planned for 2006 and 2007 in New England. The total number of plants could triple, if plans to close the two nuclear power plants move forward. (Source: PRIMEZONE)



1-year-old willow biomass crop growing in research plots in Upstate New York.



Winter harvest of willow biomass crop using a modified corn harvester.

• Texas has sold a lease for an 11,000-acre tract in the Gulf of Mexico that backers believe could become the first wind energy farm along the U.S. coast. The wind turbines planned by Galveston Offshore Wind, a subsidiary of Louisiana-based Wind Energy Systems Technologies, would be seven miles off Galveston Island and could provide 40,000 homes with power and generate



Texas could have the first U.S. Offshore Wind Farm.
Photo: ESC Forum

millions of dollars for state schools. Galveston Offshore Wind purchased a 30-year lease for \$10,000 a year, for the first five years. The company estimated production to begin between 2010 and 2012. The state will then receive a minimum of \$4.9 million in royalties, growing to at least \$14.9 million in years 17 to 30. All the money will go to a fund that pays for schools statewide. If the project passes the environmental and public scrutiny needed to obtain a federal construction permit, Wind Energy Systems eventually will erect 53 turbines. Texas ranks second in the nation behind California in electricity generated by wind turbines located on land, but company officials believe offshore turbines can tap more consistent wind. (Source: Houston Chronicle/Associated Press)

• The world's first train to run on biogas, a renewable energy source made up of organic waste, made its maiden voyage in Sweden, a country that has considerable investment in biofuels. The train which links the city of Linköping, just south of Stockholm, to the east coast town of Vaestervik some 80 kilometers (50 miles) away, consists of a single carriage seating about 60 passengers. The vehicle consists of a converted old Fiat train whose diesel engines have been replaced by two Volvo gas engines. The train is equipped with 11 canisters containing enough gas to run for 600 kilometers (375 miles) before needing a refill, and can reach a maximum speed of 130 kilometers (80 miles) per hour. (Source: AFP Science)



'Amanda' runs between the Swedish cities of Linköping and Västerås.



Watch Video at <http://news.bbc.co.uk/1/hi/sci/tech/4373440.stm> on "How BioGas is Made"

- In response to a request from the Director of Safety and Permits for the City of New Orleans, the Forest Products Lab and the University of Minnesota are preparing a web-based seminar that New Orleans inspectors can access via computer to learn about the specific problems associated with flooded wood-frame homes and other buildings. The New Orleans officials must determine whether thousands of homes and other buildings that were flooded following Hurricane Katrina can be salvaged or need to be demolished. A year ago, researchers from FPL and the University of Minnesota in cooperation with the Forest Products Society and the American Forest and Paper Association, published the Wood and Timber Condition Assessment Manual, which contains information on inspecting in-service wood.

- The Pacific Southwest Research Station has been awarded a U.S. patent for a new genetic testing process involving loblolly pine, the most important tree species in this country for pulp and solid wood products. The process offers a faster, easier, and less expensive way of identifying a mutation that reduces the amount of lignin present in loblolly pine. Lignin is the "glue" that holds the cellulose together and creates the wood of the tree. Before wood can be used to make paper, the lignin must be removed through

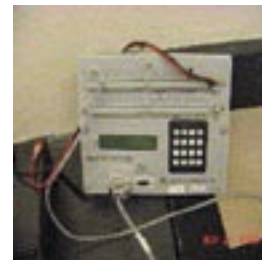
an expensive process involving numerous chemicals. With the new testing process, trees may be selectively harvested or planted based on their intended future use. The DNA sequence for this mutation was discovered by a team of scientists from Pacific Southwest Research Station and UC Davis and was lead by PSW scientist David Neale.

- The Southern Research Station economics unit in Research Triangle Park (North Carolina) has developed a mathematical model that can help law enforcement agencies better predict where and when fires might be set in wildland areas. Criminals often commit multiple crimes in a short time frame, a documented phenomenon that researchers call "temporal clustering." The phenomenon can also be a result of copycat behavior. Property and violent crimes may also display "spatial clustering" patterns, with crime concentrated in certain neighborhoods. A principal finding of the research is that wildland arson has spatio-temporal clustering similar to patterns found for other types of crimes. The model also associated lower arson rates with fuel reductions from prescribed burning and other fires.

From the Cover (Masthead) - Equipment used by Dr. Joe O'Brien, Ecophysiology Lab.



From the Cover (Masthead) - Equipment used in Dr. Joe O'Brien's Ecophysiology Lab.



Campbell Datalogger



Drying Oven



Granier Sensors



FLIR Camera



Dyna-Gauge Sensors



Hansatech Fluorometer



Infrared Gas Analyzer



Portable Photosynthesis System



FY 2006 Publications (* denotes new publication this month)

Refereed Journals and Book Chapters

Jordan, L., Daniels, R.F., Clark, A. III, He, R. 2005. Multilevel nonlinear mixed-effects models for the modeling of earlywood and latewood microfibril angle. *Forest Science* 51(4): 357-371.

***Liu, Y.-Q.** 2005. Land breeze and thermals: A scale threshold to distinguish their effects. *Advances in Atmospheric Science*, Vol. 22, No. 6, 889-902

Liu, Y.-Q., Fu, R., Dickinson, R. 2005. Smoke aerosols altering South American monsoon. *Bulletin American Meteorological Society* 86(8): 1062-1063.

Qu, J., Hao, X., Yang, R., Sommers, W., Dasgupta, S., Bhoi, S., Kafatos, M., **Liu, Y.-Q., Achtemeier, G., Riebau, A.R., Coronado, P.** 2005. Bridging Earth observations: remote sensing measurements, fire modeling, and air quality decision support system in the eastern United States. *Earth Observation Magazine* 14 (6).

Reitz, R. 2005. Forests and people: The symbiotic relationship. Pp. 89-93 *In American Perspectives on the Wildland/Urban Interface. The National Wildland/Urban Interface Fire Program*; 113 p.

Rhy, Soung-Ryoul, Chen, Jiquan, Crow, Thomas R., **Saunders, Sari. C.** 2004. Available fuel dynamics in nine contrasting forest ecosystems in North America. *Environmental Management* Vol. 33, Supplement 1, pp. 87-107.

Saunders, S.C., J. Chen, T.D. Drummer, E.J. Gustafson, and K.D. Brosofske. 2005. Identifying scales of pattern in ecological data: A comparison of lacunarity, spectral and wavelet analyses. *Ecological Complexity* 2: 87-105.

Schulte, Lisa A. and Mladenoff, David J. 2005. Severe wind and fire regimes in northern forests: Historical variability at the regional scale. *Ecology*, 86(2): 431-445.

Varner, J.M. III, Gordon, D.R., Putz, F.E., Hiers, J.K. 2005. Restoring fire to long unburned *Pinus palustris* ecosystems: Novel fire effects and consequences for long-unburned ecosystems. *Restoration Ecology* 13(3): 536-544. (Unit funded under agreement #02-1A-11330136-030; funding source Joint Fire Sciences Program)

Proceedings and Reports

Brockway, D.G., **Outcalt, K.W., Tomczak, D.J., Johnson, E.E.** 2005. Restoration of longleaf ecosystems. USDA Forest Service Southern Research Station General Technical Report SRS-83, Asheville, NC; 34 pp.

***Kennard, D, Fowler, C. T., Hubbard, W. and Rauscher, M.** 2005. The Encyclopedia of Southern Fire Science. In: Kush, J.S., comp., Longleaf Pine: Making Dollars and Sense, Proceedings Fifth Longleaf Alliance Regional Conference, 2004 October 12-15, Hattiesburg, MS, Longleaf Alliance Report No. 8: 97-100. (SRS-4104-6009)

***Liu, Y.-Q.** 2005. Spatial relationships between SST and U.S. Wildfires, *Proceedings of the Sixth Fire and Forest Meteorology Symposium*, 25-27 October 2005, Canmore, AB, Canada, Paper 6.2, P1-6 (available in CD). http://ams.confex.com/ams/6FireJoint/techprogram/programexpanded_302.htm

***Outcalt, K.W.** 2005. Restoring structure and composition of longleaf pine ecosystems of the Gulf Coastal Plain. In: Kush, J.S., comp., Longleaf Pine: Making Dollars and Sense, Proceedings Fifth Longleaf Alliance Regional Conference, 2004 October 12-15, Hattiesburg, MS, Longleaf Alliance Report No. 8: 97-100. (SRS-4104-6009)

***Outcalt, K.W.** 2005. National Fire and Fire Surrogate Study, 7th Annual SMIC Meeting and Field Trip. October 2005 Solon Dixon Forestry and Education Center, Andalusia, AL [Report]

***Outcalt, K.W.** 2005. National Fire and Fire Surrogate Study, Fuels Treatment Workshop and Field Trip. October 2005 Solon Dixon Forestry and Education Center, Andalusia, AL [Report]

Schoenholtz, S.H., **Stanturf, J.A., Allen, J.A., Schweitzer, C.J.** 2005. Afforestation of agricultural lands in the Lower Mississippi Alluvial Valley: The state of our understanding. pp. 413-432. In L.H. Fredrickson, S.L. King, and R. M. Kaminski, eds. *Ecology and Management of Bottomland Hardwood Systems: The State of our Understanding*. University of Missouri-Columbia. Gaylord Memorial Laboratory Special Publication No. 10. Puxico, MO.

Other Publications

***Outcalt, K.W.** 2005. Prescribed Burning Research in the Piedmont of Georgia. Demonstration Forest Project Hitchiti Experiment Forest, Jarrell, GA. [3-Panel Outdoor Display]

***Outcalt, K.W.** 2005. Prescribed Burning Research on the Hitchiti Experimental Forest. Demonstration Forest Project Hitchiti Experiment Forest, Jarrell, GA. [Information Card]

***Outcalt, K.W.** 2005. Long-term Dormant-Season Burning Study Located in the Palmetto/Gallberry Fuel Complex. Demonstration Forest Project Osecola National Forest, Olustee, FL. [Outdoor Display]

***Outcalt, K.W.** 2005. We can't keep fire out of these woods. We can only choose between prescribed burns or wildfire. Demonstration Forest Project Osecola National Forest, Olustee, FL. [Outdoor Display]

***Outcalt, K.W.** 2005. We can't keep fire out of these woods. We can only choose between prescribed burns or wildfire. Demonstration Forest Project Osecola National Forest, Olustee, FL. [Information Card]

***Outcalt, K.W.** 2005. Fire and Fire Surrogate Study in the Gulf Coastal Plain. October 2005 Solon Dixon Forestry and Education Center, Andalusia, AL [Bookmark]

***Outcalt, K.W.** 2005. Fire and Fire Surrogate Study in the Southern Coastal Plain. October 2005 Myakka River State Park, Sarasota, FL [Bookmark]

Abstracts and Posters

***Achtemeier, Gary L.**, and Luke Naeher. 2005. Measurements of ground-level PM_{2.5} concentrations downwind from Southern prescribed burns. Sixth Symposium on Fire & Forest Meteorology and the 19th Interior West Fire Council Meeting, October 25-27 Canmore, Alberta, Canada. Sponsored by the American Meteorological Society [Poster]

***Achtemeier, Gary L.** 2005. On plume rise – matching Daysmoke with Briggs Equations for industrial stacks. Sixth Symposium on Fire & Forest Meteorology and the 19th Interior West Fire Council Meeting, October 25-27 Canmore, Alberta, Canada. Sponsored by the American Meteorological Society [Abstract]

Callahan, M.A., Richter, D.D., Hofmockel, M. 2005 Long-term land use effects on soil invertebrate communities in Southern Piedmont soils. Ecological Society of America annual meeting, 8-11 August, Montréal, Canada [Poster]

***Canfield, J.M.**, Linn, R, Cunningham, P., **Goodrick, S.L.** 2005. Modeling effects of atmospheric stability on wildfire behavior. Sixth Symposium on Fire & Forest Meteorology and the 19th Interior West Fire Council Meeting, October 25-27 Canmore, Alberta, Canada. Sponsored by the American Meteorological Society [Abstract]

***Cunningham, P.**, **Goodrick, S.L.** 2005. High-resolution numerical model simulations of fire plume dynamics. 2005. Sixth Symposium on Fire & Forest Meteorology and the 19th Interior West Fire Council Meeting, October 25-27 Canmore, Alberta, Canada. Sponsored by the American Meteorological Society [Poster]

***Goodrick, S.L.** 2005. Building historical gridded weather data sets for fire program analysis. Sixth Symposium on Fire & Forest Meteorology and the 19th Interior West Fire Council Meeting, October 25-27 Canmore, Alberta, Canada. Sponsored by the American Meteorological Society [Poster]

***Goodrick, S.L.**, Cunningham, P. 2005. A mechanism for the formation of transverse horizontal vortices on wildland fires. Sixth Symposium on Fire & Forest Meteorology and the 19th Interior West Fire Council Meeting, October 25-27 Canmore, Alberta, Canada. Sponsored by the American Meteorological Society [Abstract]

***Goodrick, S.L.**, Hanley, D.E. 2005. Atmospheric teleconnections and wildfires in the southeastern United States. Sixth Symposium on Fire & Forest Meteorology and the 19th Interior West Fire Council Meeting, October 25-27 Canmore, Alberta, Canada. Sponsored by the American Meteorological Society [Poster]

***Hanley, D.E.**, Cunningham, P., **Goodrick, S.L.** 2005. The interaction between a wildfire and a sea-breeze front. Sixth Symposium on Fire & Forest Meteorology and the 19th Interior West Fire Council Meeting, October 25-27 Canmore, Alberta, Canada. Sponsored by the American Meteorological Society [Poster]

***Linn, R.R.**, Canfield, J., Winterkamp, J., Cunningham, P., Colman, J., Edminster, C., **Goodrick, S.L.** 2005. Numerical simulations of fires similar to those of the international crown fire modeling experiment. Sixth Symposium on Fire & Forest Meteorology and the 19th Interior West Fire Council Meeting, October 25-27 Canmore, Alberta, Canada. Sponsored by the American Meteorological Society [Abstract]

***Liu, Y.-Q.**, **G. Achtemeier** and **S. Goodrick.** 2005. CMAQ-Daysmoke as a Smoke and Air Quality Management Technique: A Case Study of a Prescribed Burning in Georgia. In: Proceedings Sixth Fire and Forest Meteorology Symposium, 2005 October 25-27, Canmore, AB, Canada [Abstract]

Outcalt, K.W., Wade, D. 2005. Response of a mixed longleaf (*Pinus palustris*) and loblolly pine (*Pinus taeda*) community to long-term dormant season prescribed burning. Ecological Society of America annual meeting, 8-11 August, Montréal, Canada [Poster]

***Stanturf, J.A.**, Burbridge, P.R., Gardiner, E.S., Perdue, J.H. 2005. Disturbance in the face of climate change: Incorporating disturbance into management of coastal forests. International Workshop on the Scale of Natural Disturbances from Tree to Stand; 29 September to 1 October 2005, Palanga, Lithuania; Lithuanian Forest Research Institute, Kaunas, Lithuania. [Abstract]



Hitchiti Information Card.



Fire and Fire Surrogate Bookmark.



Upcoming Events:

2005		*Mar 8-9	Wildland Fire 2006, Phoenix, Arizona; http://www.iafc.org/wildland
*Nov 1-3	Joint Fire Science Program Principal Investigators meeting; was to be in New Orleans; Outcalt, Waldrop, and O'Brien to attend and present in San Diego.	*Mar 24-25	The Seventh Eastern Old-Growth Forest Conference, Little Rock, Arkansas; pre-registration will be required. http://www.srs.fs.usda.gov/4106/meetings/EOGC2006/EOGC2006.htm
Nov 6-10	Soil Science Society of American Annual Meeting, Salt Lake City, UT	March 27-30	"Fuels Management -- How to Measure Success" conference sponsored by the International Association of Wildland Fire (IAWF), Portland, OR; www.iawfonline.org
Nov 10-12	Eastern Forest Restoration Conference, Black Mountain, NC; Stanturf invited to speak http://www.safc.org/resources/easternrestorationconferencehome.htm .	Mar 29-Apr 2	American Society Environmental History Annual Meeting, St. Paul, Minnesota; http://www.h-net.org/~environ/ASEH/conferences.html .
Nov 7-11	IUFRO Tree Biotechnology 2005 Meeting, Pretoria, South Africa www.iufro.up.ac.za .	*Apr 6-7	Southern Regional Conference on Forestry Technology Transfer and Science Delivery, San Antonio, Texas
Nov 14-16	"Climate Science in Support of Decision making" conference, Arlington, Virginia; www.climate-science.gov/workshop2005/papers/index.php?authorsInstructions=1 .	Apr 8-12	International Conference on Hydrology and Management of Forested Wetlands, New Bern, North Carolina; http://www.asae.org/imis/meeting/forestcall.cfm
Nov 15-17	Fire in Eastern Oak Forests: Delivering Science to Managers, Ohio State University, Columbus, OH; contact Matt Dickinson mbdickinson@fs.fed.us	May 21-24	Challenges in Coastal Hydrology and Water Quality, Baton Rouge, Louisiana; http://www.cee.lsu.edu/facultyStaff/Singh_Ve_jay/index.html
Dec 5-10	Forest Ecosystems in the Caribbean: Ecology to Development (from Basic Knowledge to Sustainable Management), Martinique, West Indies	Jun 5-9	Fourth International Poplar Symposium, "Meeting the Needs of a Growing World through Poplar and Willow Science: Combining Traditional and Novel Approaches in the Genomic Era," Nanjing, China, IUFRO Poplar and Willow Working Party 2.08.04; http://ips2006.njfu.edu.cn/
*Dec 5-7	Frontiers in Forest Information: a centenary conference/workshop at St Anne's College, Oxford, United Kingdom; www.plantlib.ox.ac.uk/forestry	*Jul 18-20	Advances in Threat Assessment and Their Application to Forest and Rangeland Management, Boulder, Colorado; http://www.forestencyclopedia.net/encyclopedia/threats
*Dec 6	South Florida Interagency Fire Management Council Meeting, Brighton, FL. Outcalt to attend and present.	Jul 9-15	18th World Congress of Soil Science, in Philadelphia, PA http://www.18wcso.org
*Dec 6-9	4th USGS Wildland Fire Science Workshop, Westward Look Resort, Tucson, AZ Tucson, AZ http://www.ag.arizona.edu/srnr/usgs	Aug 6-11	Eighth International Conference on Mercury as a Global Pollutant Madison, WI; http://www.mercury2006.org/ ; DiCosto to attend and present paper
*Dec 13-14	Sharkey Restoration Site Collaborators Planning Meeting, Stoneville, MS; Stanturf to attend	Aug 8-10	Forest and Water in a Changing Environment Beijing, China; Chinese Academy of Forestry, Beijing Forestry University and Southern Research Station.
*Dec 19	Georgia Air Policy Symposium; Achtemeier to attend and present	*Aug 22-25	5th European Conference on Ecological Restoration: "Land use changes in Europe as a challenge for restoration ecological, economical and ethical dimensions" University of Greifswald, Germany http://www.uni-greifswald.de/SER2006
2006		*Sep 25-28	2006 biennial meeting Short Rotation Woody Crops Operations Working Group, Red Lion Inn, Pasco, Washington; tentatively, joint meeting with Poplar Council of Canada, US Poplar Council, IUFRO Temperate Short Rotation Forestry Working Party 1.03.02, and SAF Agroforestry Working Group;
Jan 24-25	"Fire and Fire Surrogate Treatments for Fuel Reduction in Eastern Hardwood Forests – A Workshop for Land Managers," Asheville, NC; contact Tom Waldrop	Oct 10-13	Conference on "Sustainable Forest Management with Fast Growing Plantations", Charleston, SC; contact Dave Wear dwear@fs.fed.us
Jan 29-Feb 2	American Meteorological Society Annual Meeting, Atlanta, GA; http://www.ametsoc.org/meet/annual/	Oct 25-29	Society American Foresters Annual Meeting, Pittsburgh, PA
Jan 8-12	"Ecology in an Era of Globalization: Challenges and Opportunities for Environmental Scientists in the Americas," Merida, Yucatan, Mexico; www.esa.org/mexico		
Feb 27-Mar 1	Central Hardwood Forest Conference, Knoxville, TN. http://fwf.ag.utk.edu/central/		
*Feb 28-Mar 2	North Carolina Wildland Fire Symposium, Greensboro, NC; http://www.ncfirewise.org		

Upcoming Events:

- Oct 23-27 Knowledge management in forestry conference, sponsored by KnowForAlp, hosted by Forest Research Institute Baden Württemberg, Freiburg, Germany
- Nov 12-16 Soil Science Society of American Annual Meeting, Indianapolis, IN; <http://www.indy.org>
- Nov 13-17 3rd International Fire Ecology and Management Congress, San Diego, CA; <http://emmps.wsu.edu/firecongress/>

2007

- *Feb 26-Mar 1 14th Biennial Southern Silvicultural Research Conference, Athens, GA;
- Summer 6th North American Forest Ecology Workshop, to be held in British Columbia
- Oct 24-28 Society American Foresters Annual Meeting, Portland, OR.
- Nov 4-8 Soil Science Society of American Annual Meeting, New Orleans, LA; <http://www.neworleanscvb.com>

2008

- Nov 5-9 Society American Foresters Annual Meeting, Reno, NV.



GPRA



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GPRA -Accomplishment

Category	FY 2004 Total	FY 2005 Total	FY 2006 Total
Number of Refereed Journal Publications	20	21	9
Number of Non-Refereed Publications (include abstracts)	89	60	20
Number of Publications (refereed + non-refereed)	109	81	29
Number of Tours	41	40	12
Number of Short Courses/Training	20	13	4
Number of Invited Presentations to Scientific Organizations	12	7	5
Number of Invited Presentation to Lay Organizations	30	32	7
Volunteer Presentations to Scientific Organizations (non-GPRA	42	50	9
Number of Technology Transfer Activities (other than above)	105	132	34
Outside Funding	\$2,610,574	\$3,688,734	\$0

SRS-4104 Project Leader's Report

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